

What is claimed is:

- 1 1. A Radio Frequency Identification (RFID) process control system comprising:
 - 2 an interface supporting communications with a plurality of industry standard
 - 3 compliant devices:
 - 4 an RFID controller for communicating RFID data over the interface, said RFID
 - 5 controller including at least one RFID reader for reading said RFID data from an RFID
 - 6 tagged item;
 - 7 process control software for detecting the occurrence of a specified event
 - 8 represented by the RFID data; and
 - 9 at least one computer controlled switch operably coupled to the RFID controller;
 - 10 wherein a specified RFID event can be determined from the RFID data received
 - 11 by the RFID controller via the interface as interpreted by the process control software
 - 12 and thereby cause the RFID controller to operate the computer controlled switch to
 - 13 control a desired process.

- 1 2. The RFID process control system of claim 1 further comprising an enclosure
- 2 housing the interface, RFID controller, process control software and computer
- 3 controlled switch.
- 1 3. The RFID process control system of claim 1 wherein communications between
- 2 the RFID tagged item and the RFID controller over the interface are bidirectional.

1 4. The RFID process control system of claim 3 wherein the RFID controller can
2 write data to the RFID tagged item over the interface.

1 5. The RFID process control system of claim 1 wherein the interface is a wired
2 interface providing a physical communications path between the RFID and the RFID
3 tagged item.

1 6. The RFID process control system of claim 1 wherein the interface between the
2 RFID and the RFID tagged item is wireless.

1 7. The RFID process control system of claim 1 further comprising at least one
2 peripheral coupled to said computer controlled switch.

1 8. The RFID process control system of claim 7 wherein said peripheral comprises a
2 light that is operated by the computer controlled switch in response to specified RFID
3 data from a RFID tagged item being read by said RFID controller.

1 9. The RFID process control system of claim 1 further comprising a power
2 management subsystem for providing power to the RFID controller, the computer
3 controlled switch and the process control software.

1 10. The RFID process control system of claim 9 wherein the power management
2 subsystem can provide both DC and AC power.

1 11. The RFID process control system of claim 9 wherein the power management
2 subsystem can provide variable levels of both DC and AC power.

1 12. The RFID process control system of claim 9 wherein the power management
2 subsystem further comprises a battery charging circuit.

1 13. The RFID process control system of claim 1 wherein the RFID controller further
2 comprises any one of several industry standard RFID readers.

1 14. The RFID process control system of claim 13 wherein the RFID controller can
2 sense the interface requirements of the specific industry standard RFID reader within
3 the enclosure.

1 15. The RFID process control system of claim 1 wherein said interface supports
2 communications with a photo-sensor device.

1 16. A Radio Frequency Identification (RFID) process control system comprising:
2 an interface supporting communications with a plurality of industry standard
3 compliant devices including at least one RFID tagged item:
4 an RFID controller for communicating RFID data with said RFID tagged item over
5 the interface;
6 process control software for detecting the occurrence of a specified event
7 represented by the RFID data;
8 at least one computer controlled switched operably coupled to the RFID
9 controller; and
10 an enclosure housing the interface, RFID controller, process control software
11 and computer controlled switch;
12 wherein a specified RFID event can be determined from the RFID data received
13 by the RFID controller via the interface as interpreted by the process control software
14 and thereby cause the RFID controller to operate the computer controlled switch to
15 control a desired process.

1 17. The RFID process control system of claim 16 wherein said enclosure is an FCC
2 approved computer-style enclosure.

- 1 18. The RFID process control system of claim 16 wherein said interface comprises
- 2 at
- 3 least one physical interface chosen from the group consisting of: a parallel port, a serial
- 4 port, a universal serial bus, a PS-2 port.

- 1 19. The RFID process control system of claim 16 further comprising a power
- 2 management subsystem within the enclosure and operably coupled to components
- 3 requiring power.

- 1 20. The RFID process control system of claim 19 wherein wherein the power
- 2 management subsystem can provide both DC and AC power.

- 1 21. The RFID process control system of claim 19 wherein the power management
- 2 subsystem can provide variable levels of both DC and AC power.

- 1 22. The RFID process control system of claim 16 wherein communications between
- 2 the RFID tagged item and the RFID controller over the interface are bidirectional.

- 1 23. The RFID process control system of claim 16 wherein the RFID controller can
- 2 write data to the RFID tagged item over the interface.

1 24. The RFID process control system of claim 16 wherein the interface is a wired
2 interface providing a physical communications path between the RFID and the RFID
3 tagged item.

1 25. The RFID process control system of claim 16 wherein the interface between the
2 RFID and the RFID tagged item is wireless.

1 26. The RFID process control system of claim 16 further comprising at least one
2 peripheral coupled to said computer controlled switch.

1 27. The RFID process control system of claim 16 further comprising an RFID
2 antenna
3 interspersed between the RFID tagged item and the RFID controller for delivering the
4 RFID data to the system.

1 28. Using an integrated Radio Frequency Identification (RFID) process control
2 system,
3 a method of processing items tagged with RFID data comprising the steps of:
4 a RFID controller within the system reading RFID data from at least one RFID
5 tagged item;
6 the RFID controller passing the RFID data to process control software within the
7 system; and
8 determining if the RFID tagged item satisfies a specified RFID event by the
9 process control software interpreting the RFID data received by the RFID controller via
10 the interface and thereby control of a desired process.

1 29. The method of claim 28 further comprising the step of the RFID controller
2 causing a
3 computer controlled switch within the system to operate an attached peripheral when a
4 specified RFID event has been detected.

1 30. The method of claim 28 further comprising the step of the RFID controller writing
2 data to the RFID tagged item.

1 31. The method of claim 30 wherein the step of the RFID controller writing
2 data to the RFID tagged item comprises writing data reflecting this history of the RFID
3 tagged item.